

REMARKS/ARGUMENTS

This Amendment is in response to the Office Action dated July 8, 2005. Claims 1-36 are pending in the present application. Claims 1-36 have been rejected. Claims 1, 3, and 24 have been amended to address §112 rejections and to correct typographical and grammatical errors, in view of the Examiner's comments, in order to place the claims in condition for allowance. Applicants respectfully submit that no new matter has been presented. Claims 1-36 remain pending. For the reasons set forth more fully below, Applicants respectfully submit that the claims as presented are allowable. Consequently, reconsideration, allowance, and passage to issue are respectfully requested.

Claim Rejections - 35 U.S.C. §112

The Examiner has rejected claims 1-3 and 24-25 under 35 U.S.C. §112, 2nd paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In response, claims 1 and 24 have been amended to provide antecedent basis for "the data storage system" by deleting the term "secure" from the phrase "a secure data storage system." Furthermore, claim 3 has been amended to provide antecedent basis for "the RAID controller" by replacing the word "the" with the word "a." Applicants respectfully submit that claims 1, 3, and 24 are now definite under 35 U.S.C. 112, second paragraph. Claims 2 and 25 depend from claims 1 and 24, respectively. Accordingly, Applicants respectfully submit that claims 2 and 25 are also definite under 35 U.S.C. §112, second paragraph, for at least the same reasons as claims 1 and 24.

Claim Rejections - 35 U.S.C. §103

The Examiner has rejected claims 1, 10-12, 24 and 33-35 under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art, hereinafter, AAPA, in view of Lin (U.S. Pat. No. 5,511,184). The Examiner has also rejected claims 2-9, 13-23, 25-32, and 36 under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Lin and further in view of Yuan et al. (U.S. Pat. No. 6,526,477), hereinafter, Yuan.

Applicants respectfully disagree with the Examiner's rejections. The present invention provides a secure data storage system. In accordance with the present invention, the secure data storage system is accessed by a processor and a disk drive system that is partitioned into one or more logical partitions. A backup partition is also created, which is hidden from the processor and used to back up the logical partitions. On system reboot, low-level physical drive write commands are automatically blocked, thereby preventing a virus from making use of the physical drive write commands to destroy data on the logical partitions and the backup partition. AAPA in view of Yin does not teach or suggest these features, as discussed below.

AAPA discloses storage systems that partition one or more storage devices (e.g., hard disk drives) into logical drives that divide the physical drives into logical components to protect a user's data. For example, a virtual data storage (VDS) system for use with a computer system includes one or more physical disk drives and a VDS controller coupled between the disk drive and a CPU. The VDS controller partitions the disk drive into multiple virtual disk drives. During normal computer operation, the VDS controller presents only some of the virtual disk drives to the operating system executing on the CPU, and prevents the CPU from accessing the remaining virtual disk drives. Although the VDS system may prevent corruption of information

stored in a particular virtual disk drive, the system has several disadvantages. One disadvantage is that although the VDS system limits a virus attack only to the currently accessible logical disk drive, there is no provision for backing up and restoring the logical disk drive after the attack. For example, assume that there are two users, A and B, that use two different logical disk drives on the computer system. The VDS system will prevent a virus that attacks user A's virtual disk drive from affecting user B's virtual disk drive, but no protection is provided and a backup is not maintained to protect user A's data. Furthermore, if the users share a common logical disk drive for shared applications, there is nothing in the VDS system that protects the shared drive from a virus or that provides a backup. Another disadvantage is that no provision is made to block low-level physical drive commands that can perform a format unit operation, which removes all disk data. A further disadvantage of the VDS system is that it only allows a user to configure and hide a logical disk drive during system boot. This places unnecessary limitations on the computer system and prevents virtual disk drive configuration by program control instead of by a user logon prompt.

However, AAPA does not teach or suggest “hiding the backup partition from the processor,” as recited in independent claims 1, 14, and 24. The Examiner has referred to the Abstract of the specification as teaching this feature. However, the Abstract of the specification is not AAPA, but is instead the abstract of the present invention. AAPA is in the Background section of the specification and nowhere in the Background section does AAPA teach or suggest “hiding the backup partition from the processor,” as recited in the present invention.

A secondary reference stands or falls with the primary reference. Because AAPA fails to teach or suggest hiding the backup partition from the processor, a combination of AAPA with

Lin also fails to teach or suggest the claimed invention. Accordingly, claims 1, 14, and 24 allowable over AAPA in view of Lin.

Dependent claims

Dependent claims 2-13, 15-23, and 25-36 depend from independent claims 1, 14, and 24, respectively. Accordingly, the above-articulated arguments related to independent claims 1, 14, and 24 apply with equal force to claims 2-13, 15-23, and 25-36, which are thus allowable over the cited references for at least the same reasons as claims 1, 14, and 24.

Conclusion

In view of the foregoing, Applicants submit that claims 1-36 are patentable over the cited references. Applicants, therefore, respectfully request reconsideration and allowance of the claims as now presented.

Applicants' attorney believes that this application is in condition for allowance. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Respectfully submitted,

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